THE MILLING WORLD AND

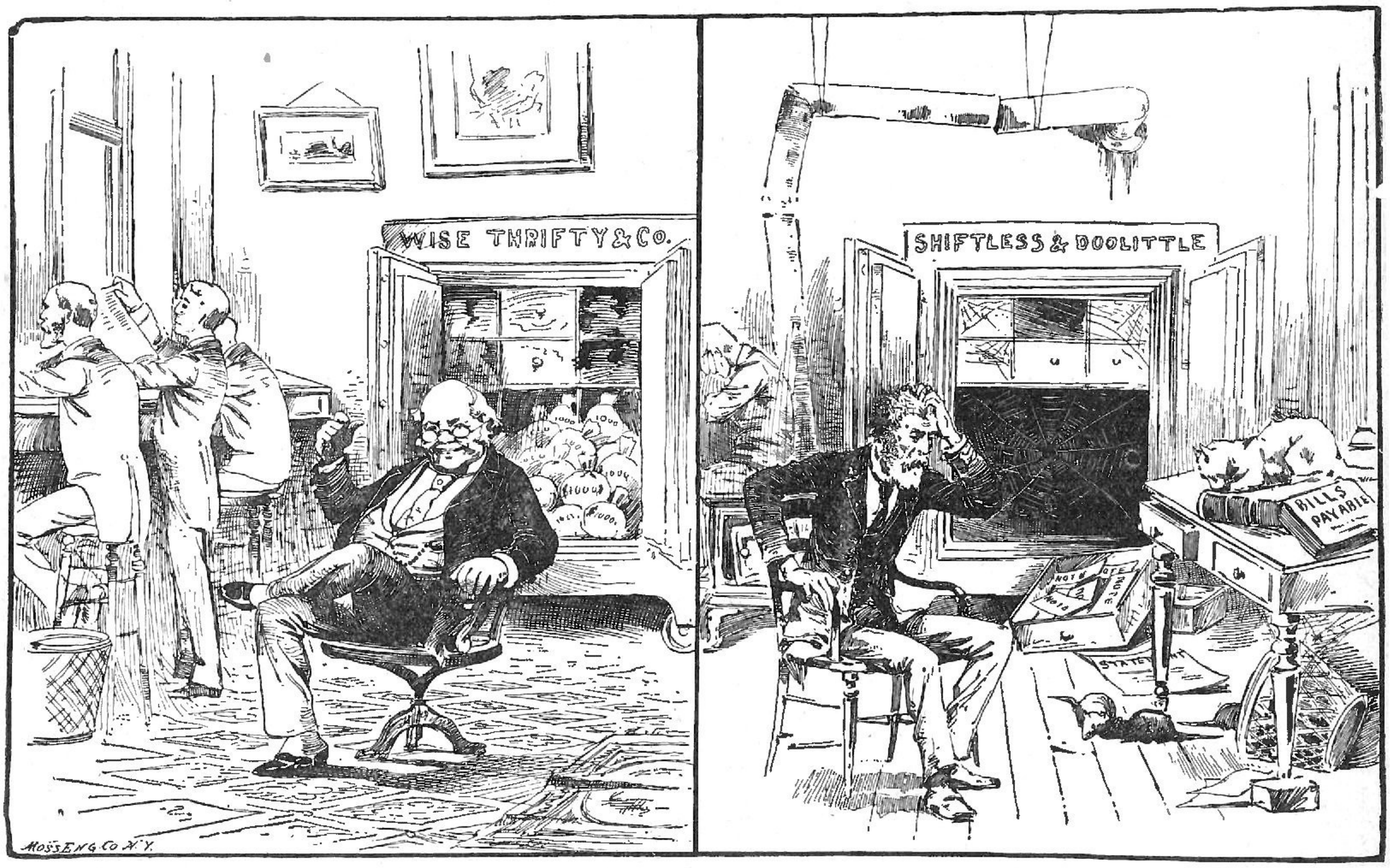
CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY MORNING.

VOL. XIX. No 19. BUFFALO, N. Y., JANUARY 7, 1889. $1.50 PER YEAR.

RIGHT TO THE POINT

"The best laid plans o' mice and men
Gang aft aglea."
But the Case Mill gets there every time,
So all the millers say.



"WE PUT IN A CASE SHORT SYSTEM MILL."

Old father Wise, with twinkling eyes,
Points backward to the well-filled till,
While Thrifty scans the new made plans
To double up the CASE SHORT MILL.

"WE DIDN'T!"

Old Shiftless weeps—the sick cat sleeps,
Doolittle has gone out to pray,
The spiders fill the empty till,
While hungry rats now hold full sway.

JUST TAKE A LOOK AT WHAT THIS MAN WRITES:

THE CASE MFG. CO., COLUMBUS, OHIO. ELYRIA, OHIO, OCT. 10, 1888.

Gentlemen: Enclosed please find settlement in full of my account. The 4-break mill works splendid and am well pleased with it. The Inter-Elevator Flour Dressers are everything you represent, both in capacity and excellence of work. The Special Purifiers are a fine machine and far ahead of the Purifiers you put in my other mill in '83. Am especially pleased with the millwright work. It is well planned and finished in a good, workmanlike manner. I can not praise your millwright and his work too highly.

Yours resp'y,
GARRET REUBLIN.

If you want a successful mill write us. Long System Mills remodeled on short notice. Case Short Break Corrugations put on any make of rolls. Our Roller Corn Mills are a most profitable investment. Now is the time to put one in your mill. Our Aspirator and Purifier for Corn Meal will astonish you. Belting, Gearing, Elevator Supplies, Silk and Wire Cloths shipped promptly on receipt of order. If you want mill supplies of any kind write us. Estimates on mills of any desired capacity furnished on short notice. Write us at once and state the capacity wanted and number of grades of flour you wish to make. The Automatic Feed on our machines makes them superior to all others. Catalogues and Circulars Mailed on Application.

RE-DRESSING ANY MAKE OF ROLLS PROMPTLY A SPECIALTY.

THE CASE MANUFG. CO., COLUMBUS, OHIO.

PLEASE MENTION "THE MILLING WORLD."

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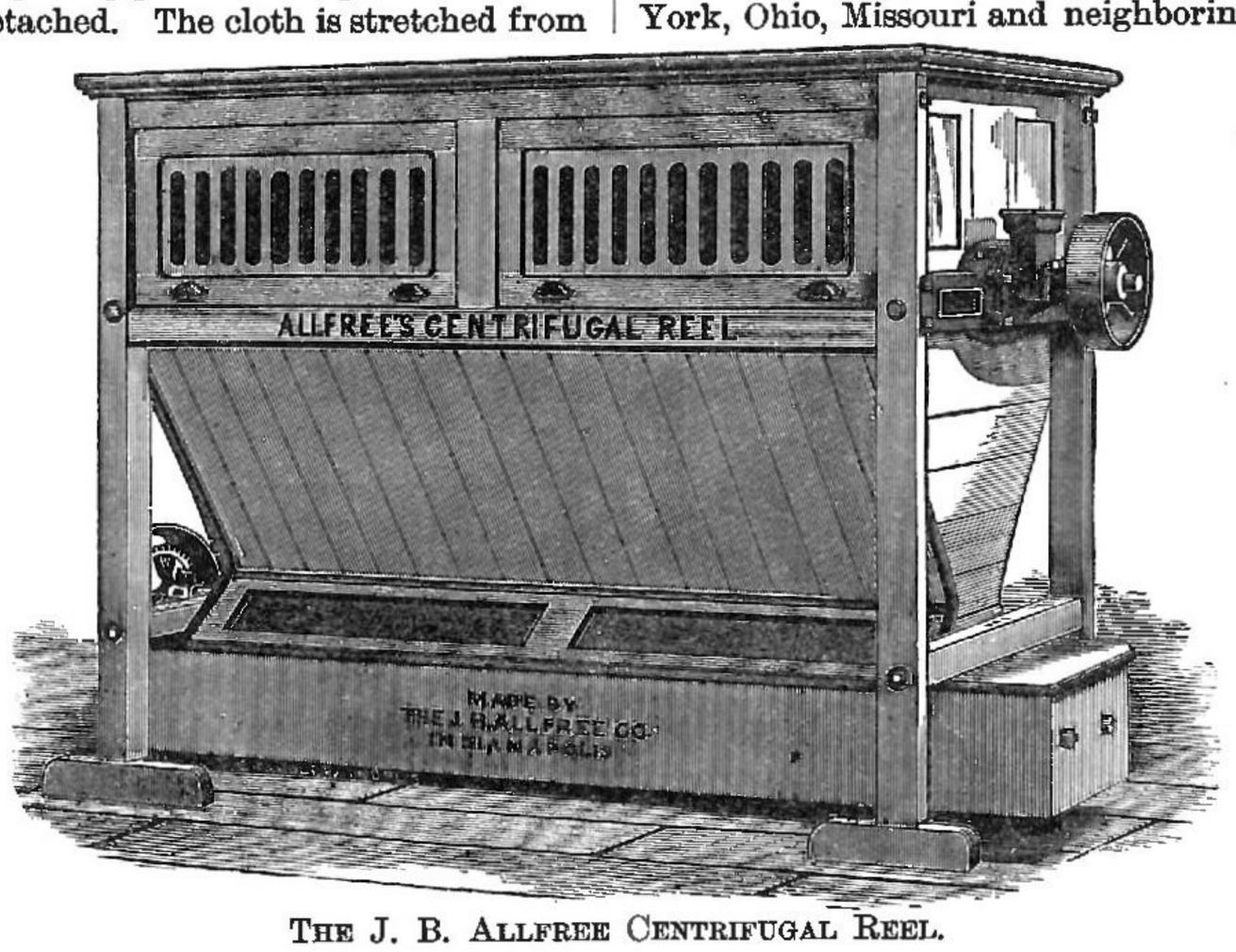
THE ALLFREE CENTRIFUGAL REEL.

Millers will be interested in the Allfree centrifugal reel shown in the accompanying engraving. It is patented by Mr. J. B. Allfree and manufactured by the J. B. Allfree Company, of Indianapolis, Ind., from whom price-lists and illustrated catalogues may be obtained by those who wish to know all about these excellent machines. The Allfree centrifugal reel is constructed with perfectly tight heads, thus preventing the admission of air into the reel and avoiding a defect found in some other centrifugals. The ribs, four in number, are made channel-shaped. The channels are virtually elevator-buckets, which constantly carry up the material from the bottom of the reel and gradually discharge it upon the beaters, utilizing a larger portion of the cloth surface than any other reel. The cloth is attached in such a manner that it can be quickly put on and tightened at will. It can also be readily detached. The cloth is stretched from the top of one rib to the bottom of the next over-curved stretcher to give it the proper shape, and by this means it is presented in a position most favorable to the passage through its meshes of the material to be bolted. Other advantages of this device are apparent when the cloth needs repair, as the cloth-cylinders may be stopped without stopping the beaters while the bolting continues, but of course not so rapidly. Every miller will at once appreciate these points of advantage, as they are important. Address the manufacturers for price-lists and all desired information.



THE J. B. ALLFREE CENTRIFUGAL REEL.

WANT of harmony, the lack of acquaintance, the distrust of one another and the inability to agree on any general plan of action seem to be the most prominent features of the meetings of millers. At a meeting of Indiana millers at Terre Haute in December, Hon. E. O. Stanard, of St. Louis, Mo., who was present, stated that it was to him a mystery why intelligent business men like the millers can not or do not manifest more confidence in one another, and why they can not co-operate. Mr. Stanard is too intelligent a man not to know why there is an absence of harmony and intelligent, well-directed co-operation among the millers of the United States. The reasons are plain. 1. There are between 20,000 and 30,000 millers in this country. 2. The interests of the millers of one section are opposed in some essentials to the interests of the millers of other sections. The antagonism between the spring and winter wheat millers is an instance. The antagonism between the interests of the Pacific Coast and of the Mississippi Valley is another instance. The antagonism between the Ohio millers and the St. Louis millers is a third instance. 3. There is no national association or organization in existence that is calculated to call the millers of the whole country together. The present so-called Millers' National Association, with probably less than 200 members, and most of them from a few points, is a mere local mutual admiration society, whose members get together once a year, feast, feel good, and talk, talk, talk, but accomplish nothing. That association, conducted on its present methods, might exist a million years and never really make itself felt as a controlling force among American millers. A truly "national" association should call men from Oregon, California, Maine and Georgia as well as from Minnesota, New York, Ohio, Missouri and neighboring States. It should be in the hands of men of broad views, who could understand Pacific Coast interests, Minneapolis interests, St. Louis interests, Buffalo interests, New York interests and the interests of all sections and centers, who could take a comprehensive view of the American milling industry and decide where advantageous co-operation would be possible, and who could plan a really "national" system of controlling or regulating output, prices and market conditions. 4. Nothing has really ever yet been attempted, or achieved, in the way of bringing together a really large number of really representative millers. The flour output of the American mills runs close to 75,000,000 barrels a year, while their capacity is far beyond even that enormous number. When has there been, when is there likely to be, a meeting of millers representing a controlling part of the American output or capacity? Mr. Stanard has only to look at things as they are to see where the trouble lies. A "national" association devoted to trivialities, to local interests purely, to interminable palaver, to ridiculous reports of crop-prophets, and entirely devoid of all truly "national" characteristics is the principal cause of the want of trust and co-operation among American millers. It would be a MAN undertaking to call into existence a representative "national" organization, and until that is done the millers of the various states and sections will run a go-as-you-please race, with the devil taking the hindmost perpetually.

THE MILLING WORLD AND CHRONICLE OF THE GRAIN AND FLOUR TRADE

PUBLISHED EVERY MONDAY. OFFICES: Corner Pearl and Seneca Streets, Over Bank of Attica.

McFAUL & NOLAN, - - - PROPRIETORS.

THOMAS MC FAUL. JAMES NOLAN.

SUBSCRIPTION.

In the United States and Canada, postage prepaid, $1.50 Per Year, in advance; remit by Postal Order, Registered Letter, or New York Exchange. Currency in unregistered letter at *sender's risk.*

To all Foreign Countries embraced in the General Postal Union, $2.25 Per Year, in advance.

Subscribers can have the mailing address of their paper changed as often as they desire. Send both old and new addresses. Those who fail to receive their papers promptly will please notify at once.

ADVERTISING.

Rates for ordinary advertising made known on application.

Advertisements of Mills for Sale or to Rent; Partners, Help or Situation Wanted, or of a similar character One cent per word each insertion, or where four consecutive insertions are ordered at once, the charge will be Three cents per word. No advertisement taken for less than 25 cents. Cash must accompany all orders for advertisements of this class.

Orders for new advertisements should reach this office on Friday morning, to insure immediate insertion. Changes for current advertisements should be sent so as to reach this office on Saturday morning.

EDITOR'S ANNOUNCEMENTS.

Correspondence is invited from millers and millwrights on any subject pertaining to any branch of milling or the grain and flour trades.

Correspondents must give their full name and address, not necessarily for publication, but as a guarantee of good faith.

This paper has no connection with a millfurnishing house and aims to represent the trade without prejudice, fear or favor.

Address all communications **THE MILLING WORLD, BUFFALO, N. Y.**

Entered at the Post Office, at Buffalo, N. Y., as mail matter of second-class.

SITUATIONS WANTED.

Advertisements under this head, 25 cents each insertion for 25 words, and 1 cent for each additional word. Cash with order. Four consecutive insertions will be given for the price of three.

ENGINEER WANTS SITUATION.

First-class man of experience, open for engagement after 1st of January, 1889. Address, M. G. PERINE, Linden, Mich. 19

SPECIAL ADVERTISEMENTS.

Advertisements of Mills for Sale or Rent, Partners Wanted, Machines for Sale or Exchange, etc., etc., cost 1 cent per word, for one insertion, or 3 cents per word for four insertions. No order taken for less than 25 cents for one insertion, or 50 cents for four insertions. Cash must accompany the order. When replies are ordered sent care of this office, 10 cents must be added to pay postage.

FOR SALE AT A BARGAIN.

A good 100-barrel roller mill in Western New York. Good reasons for selling. For particulars address, "E," care of MILLING WORLD, Buffalo, N. Y. 2826

WANTED.

Wanted to sell one-half or whole interest in a first-class paying grist and saw-mill, or would rent same. Every thing in first-class order. For particulars address, "P," care of THE MILLING WORLD, Buffalo, N. Y. 1619

SAFE BUSINESS INVESTMENT.

A party owning flouring mill, with modern most approved machinery, doing large, profitable, local and merchant business, well established, located in growing city, population 12,000, Western New York, desires to associate more active capital. Correspondence solicited. Address, BOX 787, Waukesha, Wis. 18tf

FOR SALE.

10 Single Sets 9x30 Stevens Rolls.
2 Single Sets 7x12 Ferriers Rolls.
2 Centrifugal Reels.
2 No. 8 Niagara Bran Dusters.
2 No. 3 Prinz Dust Collectors.
1 No. 4 Hunter Purifier.
1 No. 6 Garden City Purifier.
1 No. 1 Pyne Purifier.
1 No. 3 Richmond Brush Machine.
1 No. 2 Silver Creek Scourer.
1 No. 00 Becker Brush Machine, over 50 Run Millstones all sizes, all complete.

Above Machines are in first-class condition and practically as good as new. Address J. B. DUTTON, 115 E. Fort Street, Detroit. 18tf

HORIZONTAL (underrunner.)

If you are desirous of obtaining the best Mill or Cob Crusher, send for our catalogue and be convinced that our's fill the bill. Can not fail to please you. They are guaranteed to prove as represented.

C. C. PHILLIPS,
OFFICE, 20 SOUTH BROAD STREET,
PHILADELPHIA, PA.

MILL MACHINERY FOR SALE.

One 24-Inch Portable Mill, wood frame, capacity 15 to 20 bushels per hour; new, best make.
One 20-Inch Portable Mill, iron frame, capacity 12 to 16 bushels per hour; new, best make.
One No. 0 Standard Combined Separator, Smutter and Brush Machine; new, best make.
One 18-Inch Vertical Portable Mill, French Buhr Stone, hung on horizontal shaft; capacity 25 to 40 bushels per hour; new, best make.
One 14-Inch Vertical Feed Mill; best make, new, a bargain.
One No. 6 Dustless Separator; new, a bargain.
Two No. 4 Scientific Grinding Mills, capacity 40 to 50 bushels per hour; new.
A Lot of Elevator Buckets, brand new, best make, any size desired, very cheap.
One No. 1 Full Rigged Combined Dustless Separator; new, a bargain.
Four Corn Cob Crushers, right or left hand, driven from above or below, best make; capacity 40 to 60 bushels per hour.

For particulars address, FRANK SMITH, care of THE MILLING WORLD, Buffalo, N. Y. 5tf

AGENTS WANTED.

Active resident agents wanted in every locality, rare offer, not whole time required, money made easily. Samples, &c., free. Send reference with application. RELIANCE OIL & GREASE CO., Cleveland, O. 1922

THE managers of the "Central Association" pretend that they have been greatly benefited by that organization. Notwithstanding that pretense, some of the millers who belong to that association were at the Milwaukee convention and were among the most pessimistic of those in attendance.

THE ear bent towards Manitoba fails to hear the swash of that "enormous crop of fine wheat" that should now be falling into the bins of that country. The only thing heard is the complaint that the frost of last August really did far more damage than the persons most deeply interested have acknowledged.

ONE eminent English authority, Sir James Caird, referring to the decrease in American wheat and flour supplies to Great Britain and the corresponding increase in Russian supplies during 1888, announces that as a result the United States has "lost not only the wheat, but also the transportation of it." As the country has not had the wheat from the short crop of 1888, will Mr. Caird inform us how we "lost" it? If the United States has "lost" what it never had, by parity of unreasoning juggling with words it may be said to have "lost" all the wheat grown elsewhere in the world. Great is logic! Still greater, however, is a little common-sense.

DECIDED selfishness, only partly concealed, inspired the talk and acts of some of the millers of the Milwaukee convention. Having loaded the markets with flour at a certain figure, and having received their money therefor, they proposed in reality to do what they could to lower the price of that flour. As they could not be hurt by breaking the prices of articles that that they had unloaded, it was only natural that they did not care what became of the men who had bought and paid for those articles. Hence all the palaver in favor of lower prices. Probably the flour-dealers will get their eyes opened in the near future and keep them well opened when future conventions, similar to the Milwaukee gathering, are held.

THE winter-wheat millers appear to have the advantage over the spring-wheat millers at present. They have cheaper wheat and are therefore able to force sales where none are possible to the northwestern flour-makers who are loaded up with spring wheat, not of the highest quality in all cases, that cost them from $1 to $1.25 a bushel. The prominent winter-wheat millers go to the conventions at Milwaukee, Terre Haute and elsewhere and piously proclaim that it is a mystery to them why the millers of all sections can not co-operate, but all the same those philanthropic winter-wheat millers unanimously omit any and all meaures that will "ease up" matters for the spring-wheat millers. It is all very comical to the looker-on in Venice, and it is all very human, too! Practice follows not upon precept. The hand fulfills not the sermon of the lips. It is evidently a case of elaborate long-system faith and of the shortest short-system works. What shall the harvest be?

STEAM BOILER EXPLOSIONS.

(*Continued from page 347.*)

nozzle on the cast-iron head of the dome. The main steam-pipe was also connected with this nozzle. While the men making repairs were at work in the boiler, hot water from the condensed steam that leaked through the stop-valve trickled down upon them and greatly annoyed them. To prevent this, one of the men made a pine plug to fit the hole in the nozzle and drove it in from the inside. When the repairs were completed, the men gathered up their tools and got out of the boiler, entirely forgetting the pine plug. The man-hole was put in place, the boiler filled to proper height

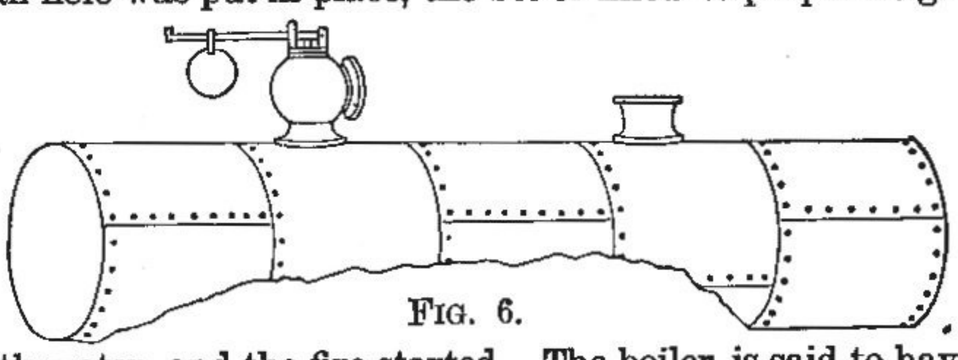


FIG. 6.

with water, and the fire started. The boiler is said to have behaved very strangely. No steam could be raised. But after an hour or two, the top of the dome was raised several hundred feet, and was found a long distance away the following day. Fig. 1 gives a correct view of it when it was found. This was a case of explosion from over-pressure. The boiler was abundantly strong for the ordinary pressure required, but the only outlet for the steam was securely closed, and the safety-valve was rendered useless.

Another case of explosion from over-pressure occurred in a Western town. There were two boilers set and connected together as shown in Fig. 2. It will be seen that there are stop-valves between the domes and the steam-drum, on which the safety-valve for the two boilers was located. This arrangement was made so that one or both boilers could be used. The owner was warned of the danger of such an arrangement and advised to put a safety-valve on each of the boilers, as shown in Fig. 3. But he neglected to do so. And one day, after shutting off one boiler, he built a fire under it, forgetting to open the stop-valve. There being no escape for the accumulating steam, the boiler was blown in pieces, as shown by Figs. 4, 5, and 6. There are no doubt many explosions from over-pressure through carelessness, similar to these cases. We have indisputable evidence that boilers, even those which appear to be good boilers, explode with great violence at ordinary pressures and at comparatively low pressures. When we examine the fragments of such exploded boilers, we rarely fail to find some hidden weakness from corrosion or from some defect in material or construction. The careless use of the drift-pin in the construction of boilers has no doubt been the cause of many accidents. I have been in boiler-shops where this instrument was wickedly used. The rivet-holes failing to come fair when the plates were brought together, one riding over the other, the drift-pin was used so to adjust them that a rivet could be inserted. The drift-pin, under the blows of an 8 or 10-pound sledge hammer, with a handle four feet long, causes great distress of the material, and if it does not fracture under the treatment, it is fair to assume that a strain is brought to bear which under ordinary steam pressure will be aggravated, until from weakness and utter inability to "hold on" longer, rupture occurs.

Another case of explosion from carelessness is illustrated by the annexed figures. Fig. 7 shows the boilers as they appeared just before the explosion. The boilers were nearly new, each 54 inches in diameter and 17 feet long. After using them for some months, some changes were made in the steam-drum connections. The man-hole plate of one did not fit tightly, probably from some small portions of the old gasket adhering to the seat. Steam issued from the joint, and instead of waiting until the work of the day was over, so that the cause of the leak could be ascertained, two men secured a wrench with a long handle, and endeavored to force the man-hole plate on to its seat by screwing down the nut of the bolt that held it in place. They were not successful in stopping the steam leak. So a long piece of pipe was secured and slipped over the handle of the wrench, and with this increased leverage these two men exerted their whole force to bring the man-hole plate into place.

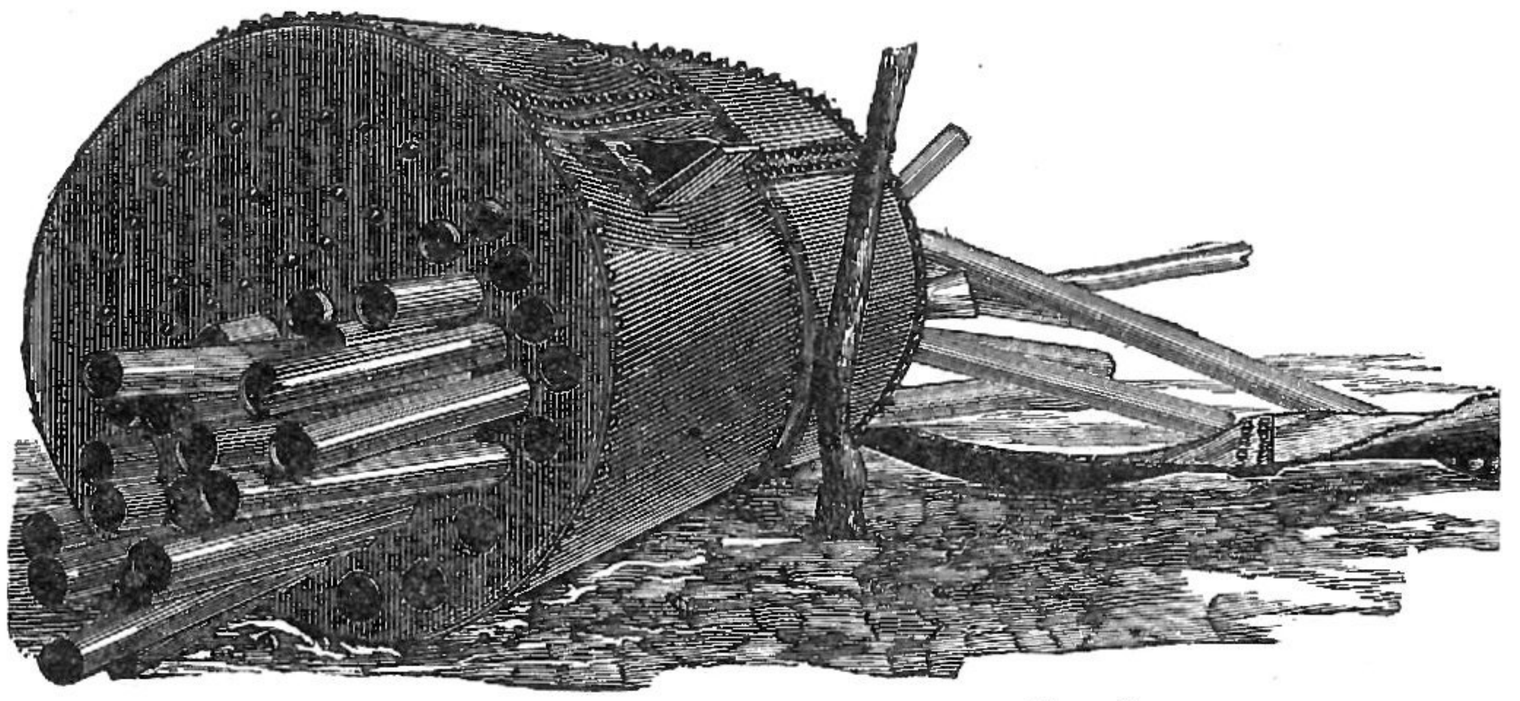


FIG. 8.

Rear view of the part of No. 3 boiler which is shown in Fig. 7.

The frame of the man-hole, which was cast iron and sufficiently strong for the purpose intended, was fractured by this careless and violent usage. The rupture extended into the sheet, and a very destructive explosion followed. The pressure of the steam on the boilers at time was about 80 pounds. This shows how important it is to secure men of intelligence and good sense to care for boilers under steam. Another defect is grooving, which arises from a channeling of the plate. This is caused by some strain, generally brought to bear from the uneasy resting of the boiler in its setting. It may arise from strains caused in construction. But it generally appears along the edge of the lap of both horizontal and girth seams. The continued bending back and forth of the metal loosens up the fiber and opens it to the attack of any impurities that may be in the water. The channels or grooves extend sometimes nearly through the plate; fracture occurs, and disaster is very liable to follow. A boiler originally well constructed and strong may become weak from low water, I mean by this overheating from low water, and be in condition inviting rupture or explosion when used under ordinary working steam pressure. The deposits from bad boiler water work great mischief. Their accumulation in the form of scale of greater or less thickness on the plates of boilers is a source of much trouble and danger. Plates become overheated and burned and have little ability left to withstand the pressure within.

Take, for example a boiler with a steam-pressure of 80 pounds, what are the conditions? We have a boiler 60

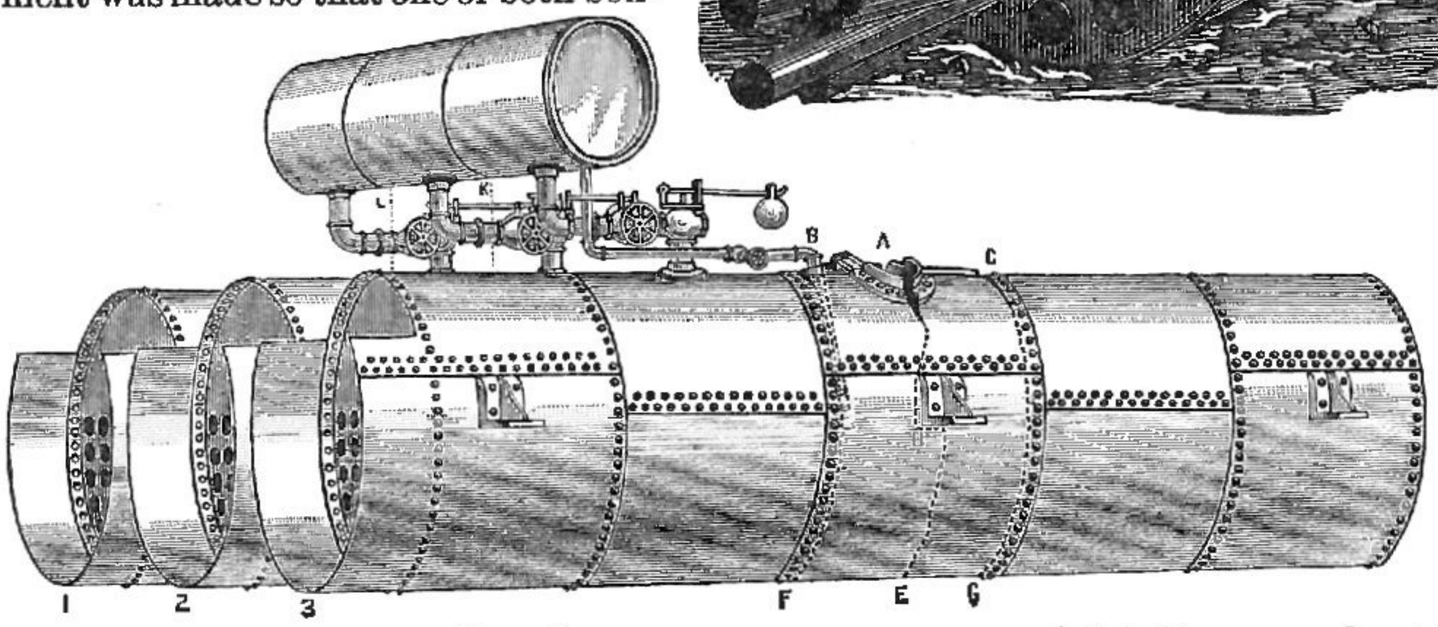


FIG. 7.

Showing the relative position of the boilers 2 and 3, the two that exploded, breaking first at the man-hole of No. 3. B F, A E, and C G, secondary lines of rupture. K L, dotted lines showing location of brick piers built for support of steam drum, upon the mid walls of the setting.

inches in diameter and 16 feet long under 80 pounds pressure of steam. The quantity of water is 168.17 cubic feet, or 1,135.91 gallons, or 9,465,8 pounds. This water is heated up to a temperature due to the pressure of steam, or 324 degrees Fahr. All this contained heat in excess of 212 degrees is ready to flash into steam if it had the opportunity, but the superincumbent pressure of steam on the surface of the water holds it in subjection as a reservoir of power from which to draw as the steam above is used. If we now suppose a rupture to occur above or near the water-line, the steam already formed would rush out at a velocity, at first, of at least 1,450 feet per second. The steam-space of the boiler would be nearly emptied before the heat contained in the water could so far overcome the inertia of the water as to disengage additional steam. The steam which would rise from the water, carrying a great quantity of water with it, would strike with great velocity upon the upper part of the boiler, and in my judgment be sufficient to rend the boiler in pieces and project the broken parts to a great distance. I have always found that the most destructive boiler explosions were those where there was evidence of the usual supply of water. In discussing one of the experiments at

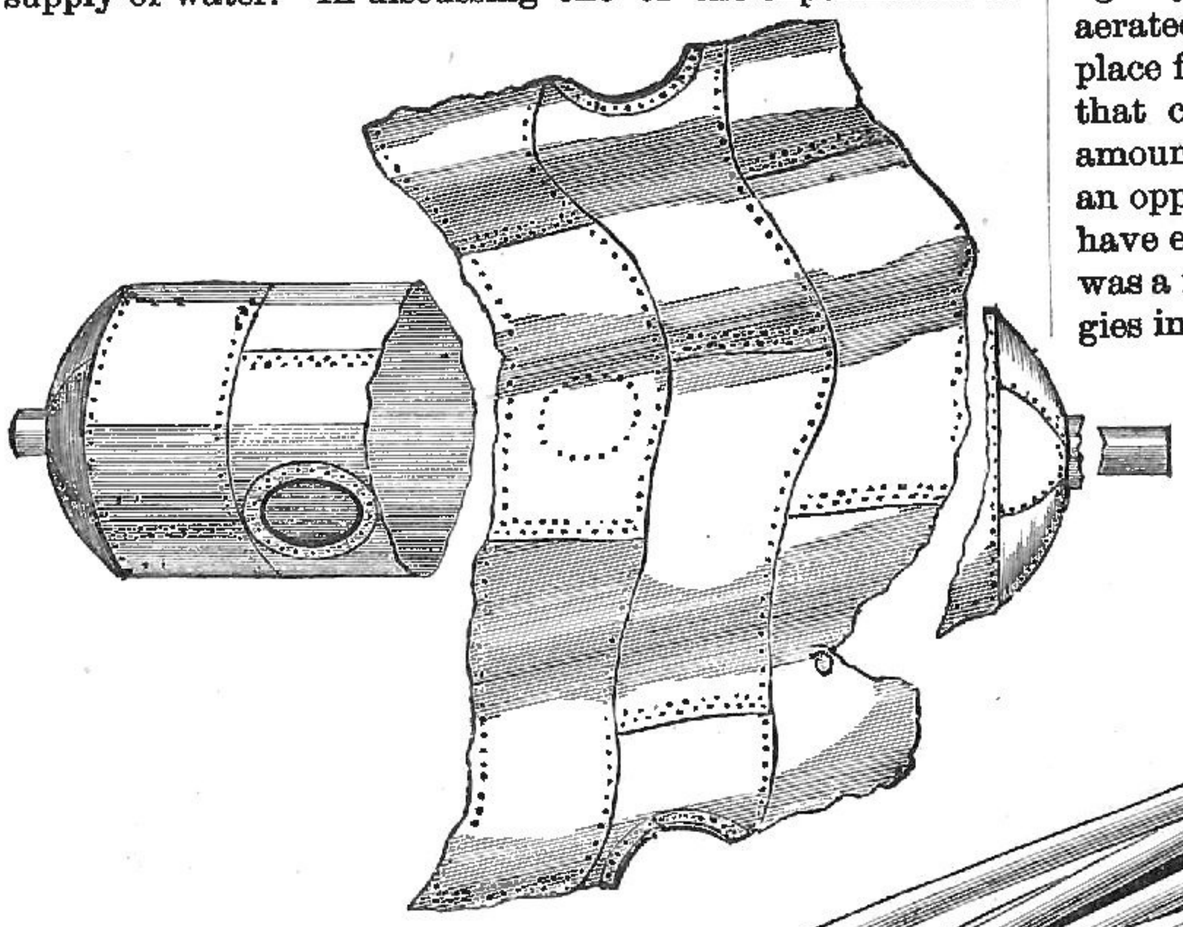


FIG. 10.

Sandy Hook in 1871, Prof. R. H. Thurston presented the following calculations of the energy stored up in the boiler and of the work done by the liberated forces. The steam-boiler referred to weighed 40,000 pounds and contained about 30,000 pounds of water and 150 pounds of steam in the steam-space, all of which had a temperature of 301 degrees Fahr., when, at the moment before the explosion, the steam-pressure was 53½ pounds above that of the atmosphere. Prof. Thurston says: "When the explosion took place, the whole mass at once liberated its heat until it had cooled down to the temperature of vapor under the pressure of the atmosphere." I will not follow Prof. Thurston's calculations through, but he concludes that the maximum possible effect of these liberated forces was sufficient, had it acted in one direction, to have thrown the boiler more than five miles high. As it was, with the liberated forces acting in all directions, portions of the boiler were projected from 200 to 400 feet high. The question now arises, Why do not all boilers that rupture explode with such violence? It depends on the locality of the rupture and its dimensions. If a crack or fracture occurs on the bottom of a boiler and does not extend to any great length, the water will run out no faster than the steam is liberated into the steam-space; but a large rupture at or near the bottom of the boiler, sufficiently large suddenly to discharge a large quantity of water, would be followed alike with destructive results. For by this great disturbance in the steam-space of the boiler, the disengaging steam from the water, together with the water, would act upon the shell with great force and destructive results. Another cause of boiler explosions is the effort to connect boilers under different pressures of steam by opening the stop-valve between them. The water races from the boiler of higher pressure to that of lower pressure with a velocity and force due to the difference of pressure and volume of water so disturbed. Very destructive explosions have resulted from carelessness of this nature. I desire to call your attention to a case that is of special interest as bearing upon the many theories of boiler explosions which have been advanced from time to time. The drawing (Fig. 10) illustrates the explosion of a rotary bleacher, such as are used in paper mills. It was 20 feet long and about 5 feet in diameter. The plate ruptured at the man-hole or stock-door, and instead of quietly dropping its load, it exploded with great force, entirely demolishing the mill and causing great destruction to life and property. This vessel was 150 feet from the boiler which supplied it with steam. There was no fire near it and no heat save that due to the pressure of steam, which was about 50 pounds. Here is a case which will be difficult of explanation by any of the "mysterious agency" theories. It certainly was not electricity nor deaerated water. There were no overheated plates, hence no place for decomposed steam. But there was an explosion that caused fearful destruction. The heat in this large amount of water became destructively energetic as soon as an opportunity was given it to act. What weakness might have existed in the material I am unable to say, but there was a rupture sufficiently large to change its potential energies into terribly destructive activities. I will add that up

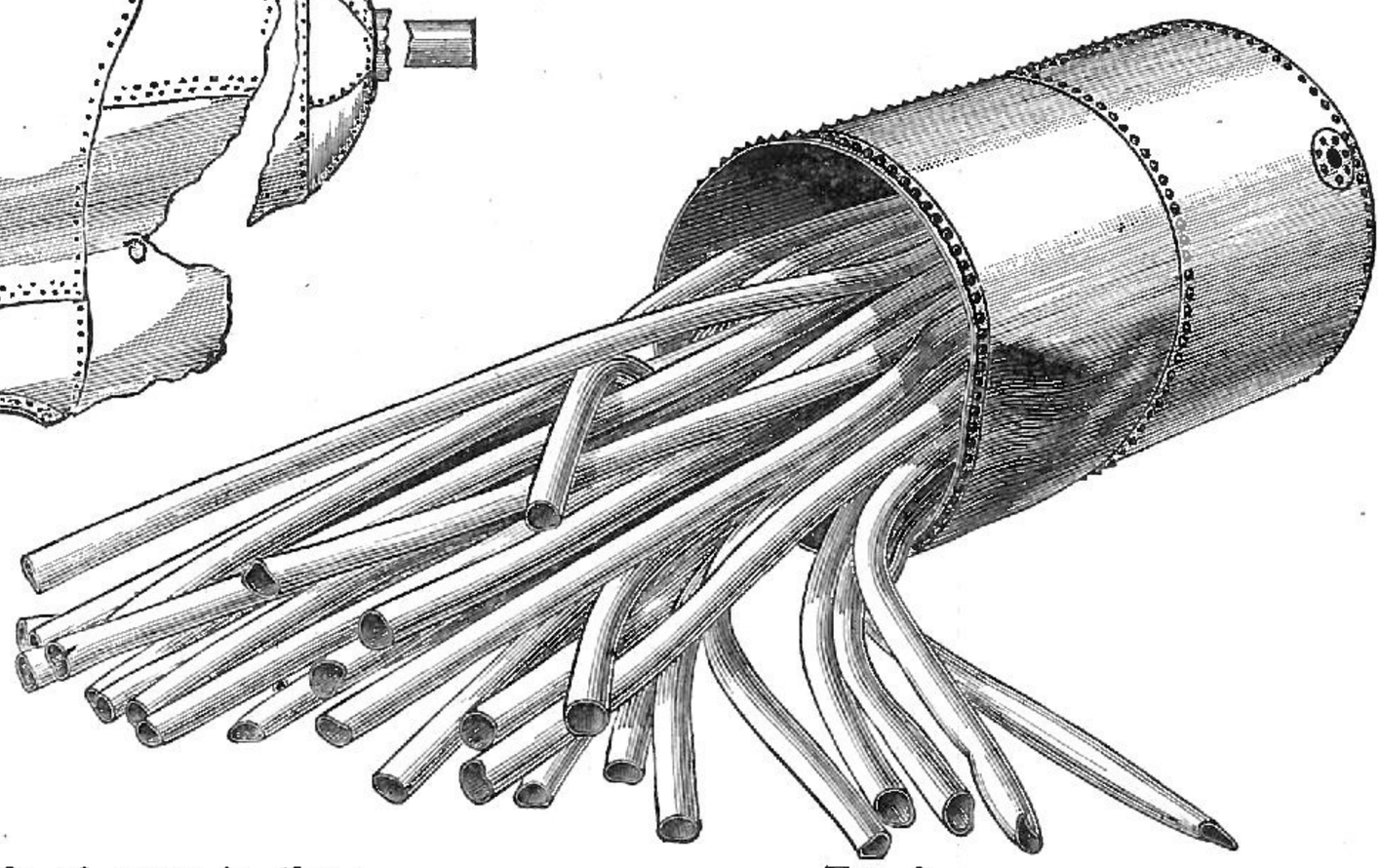


FIG. 9.

to this time we have the record of some 30 explosions of similar vessels. They are always destructive, because the contained water at a high temperature is a reservoir of power which nothing can resist when it is once liberated.

POINTS IN MILLING.

INFERIOR wheat is poor wheat for the cash account and balance-sheet of the miller who may be induced to buy it because it costs less than good wheat. What the unwisely economical purchaser may save in buying inferior wheat he will lose over and over in grinding. Poor wheat means loss at every point. 1. It will cost more to clean and put in condition for grinding than good wheat. 2. It loses more on every bushel because it is inferior. 3. It yields less flour from a given quantity of grain than good wheat. 4. The flour made from it, even with all conceivable extra care, will be of poor or inferior quality. Thus there is loss all along the line of processes. Extra work in cleaning, extra care and work in grinding, less yield, inferior flour and, as the result of it all, dissatisfied customers and loss of patronage. What possible reason for purchasing inferior grain can be given, so long as it is possible to get grain of good quality? Remember that economy must include the all-im

portant factors of yield and quality, or it is not economy at all.

I FIND occasionally a miller who is tempted to buy poor grain, and the only reason one of these economists ever could give for doing so was that the "grain was cheaper." Every one of them knew that the extra time, care, trouble and labor required to make the poor wheat into flour of a respectable grade would in the end more than balance the difference in cost of the good and the bad grain, while the possible loss of custom from the deterioration of product would very probably outweigh all other considerations. Yet they will buy and try to grind bad wheat. Human nature is often inhumanly preposterous.

I KNOW one mill that has run on nothing but inferior wheat for the past six months, not from necessity, but from the choice of the owner, who adopted the plan of buying the cheapest wheat. The experiment has been a costly one, and on New Year's Day the owner resolved to "turn over a new leaf" and to buy only good wheat. He says he has damaged his machines more in six months on bad wheat than they would have been damaged in a year on good wheat, while all his "customers have turned into mere mules, kicking, kicking, kicking all the time." He lost money in his efforts to make good flour out of poor grain, or more accurately, in his efforts to make his patrons believe that inferior flour was really good and desirable flour.

VERTICAL BUHR GRINDING MILLS.

Herewith are several engravings illustrating the celebrated single and double vertical buhr grinding-mills manufactured by the well-known Case Wheel and Mill Company, of Bristol, Conn. Particular attention is called to these remarkable mills. In Fig. 1 is shown a double mill, which is virtually two mills in one. It can be set for doing the finest work and the stones will not run together should the grain run out. This mill has two hoppers. By placing a division in each, four hoppers are obtained, as there are adjustable slides and a double-shoe feed in each hopper. In Fig. 2 is shown the internal working of this mill. It has a shaft running through horizontally, with a driving-pulley on each end, and a running stone fastened rigidly to the shaft in the center, with a double-collar step solid on the shaft in the center of the left-hand bearing, which keeps the runner from the least particle of end-wise motion. Around the outside of the running stones are placed fans for receiving air and circulating it through the grain and clearing the mill. The bed-stones are cemented into bed-plates, from which extend three screws, which pass through the outer case and have fitted to them small pinions and set-nuts. The three pinions are made to move together by means of the large spur-gear shown. By these screws the stones are adjusted for the various kinds of grinding, and the fact that they are made to move together insures a uniform adjustment. The hoppers are so made that a partition may be placed through the middle of them, and two kinds of grain may be fed in at the same time in each hopper, with provision for independent adjustment of feed to regulate the proportion of the two kinds of grain. The grain falls from the shaker onto the screw on the shaft and is fed to the stones, the discharge being at the side of the case. The bed-plates can by means of lock-nuts on the adjusting-screws be prevented from coming together in case the grain runs out, and yet if any foreign substance, such as a nail or bolt, should go in, the stones will separate and allow it to pass through without serious injury being done. This is from the fact that the bed-plates rest upon six rubber cushions, which exert sufficient pressure for grinding and yet yield and allow the stones to separate when necessary to prevent their injury. A mill constructed in this way, with a runner in the middle and a bed-stone on each side, has the advantage that all end-thrust is taken off the shaft, the thrust on one grinding surface balancing that on the other. The outer case is of iron, in two parts, bolted together, and the parts are so arranged that the case may easily be separated and the stones swung into position for dressing. In Fig. 3 is shown a single mill, which is very similar in its construction to the double mill. The internal working of the single mill is well shown in Fig. 4, which will be thoroughly understood from the perusal of the description of the double mill. The advantages of these mills are summed up by the makers as follows: 1. The feed is good in feeding wheat, oats, corn, mixed grains or cracked cob. 2. The stones will not run together, even if grain runs out. 3. No heating of the grain in grinding. 4. Great capacity. 5. Perfect adjustment of the stones. 6. Adjustment on each side of hopper so that two kinds of grain may be fed independently and in different proportions. 7. A double mill, in which two kinds of grain may be ground separately and at the same time. 8. Dust-proof joints. 9. If a nail or bolt runs in, no injury is done. 10. The inexperienced can handle it with perfect ease and safety. For further information and for price-lists and catalogues, address the

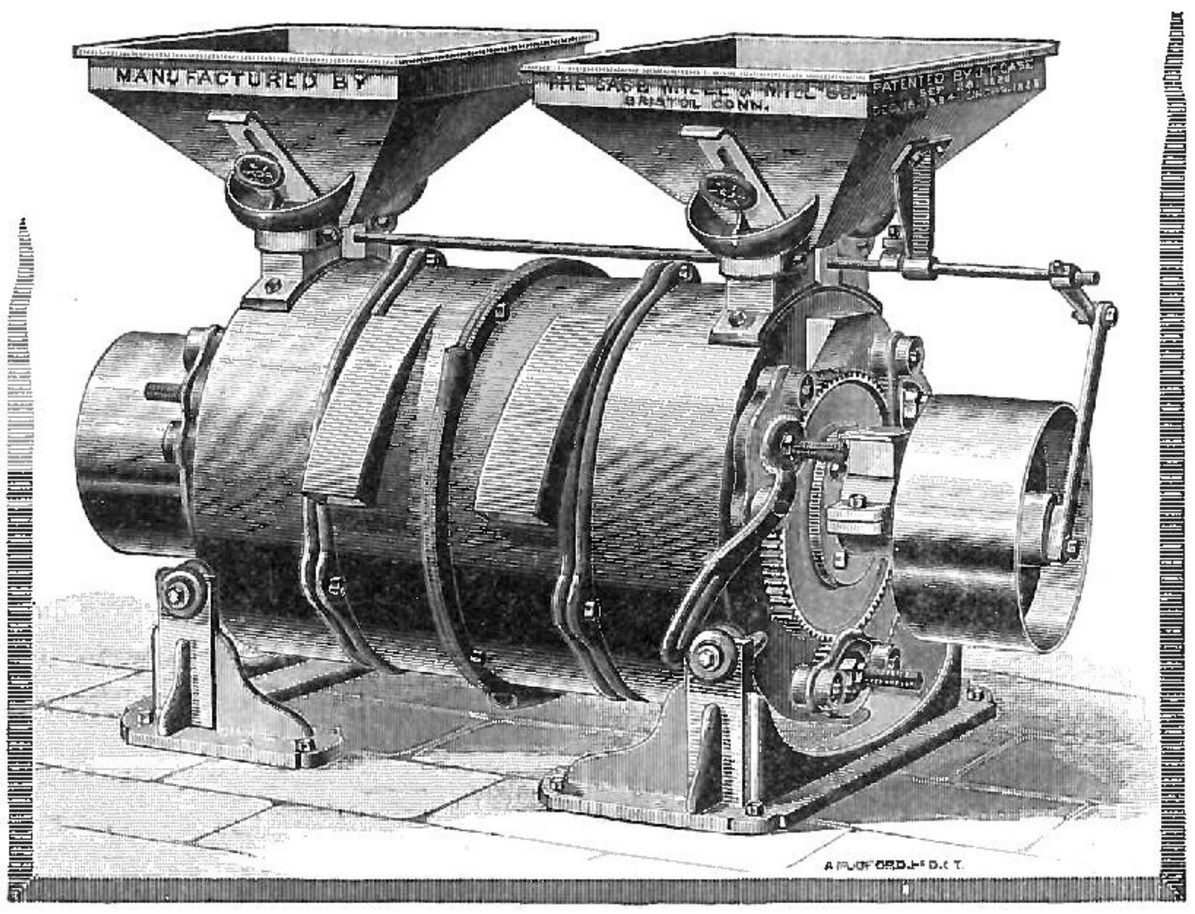


FIG. 1. DOUBLE VERTICAL BUHR MILL.

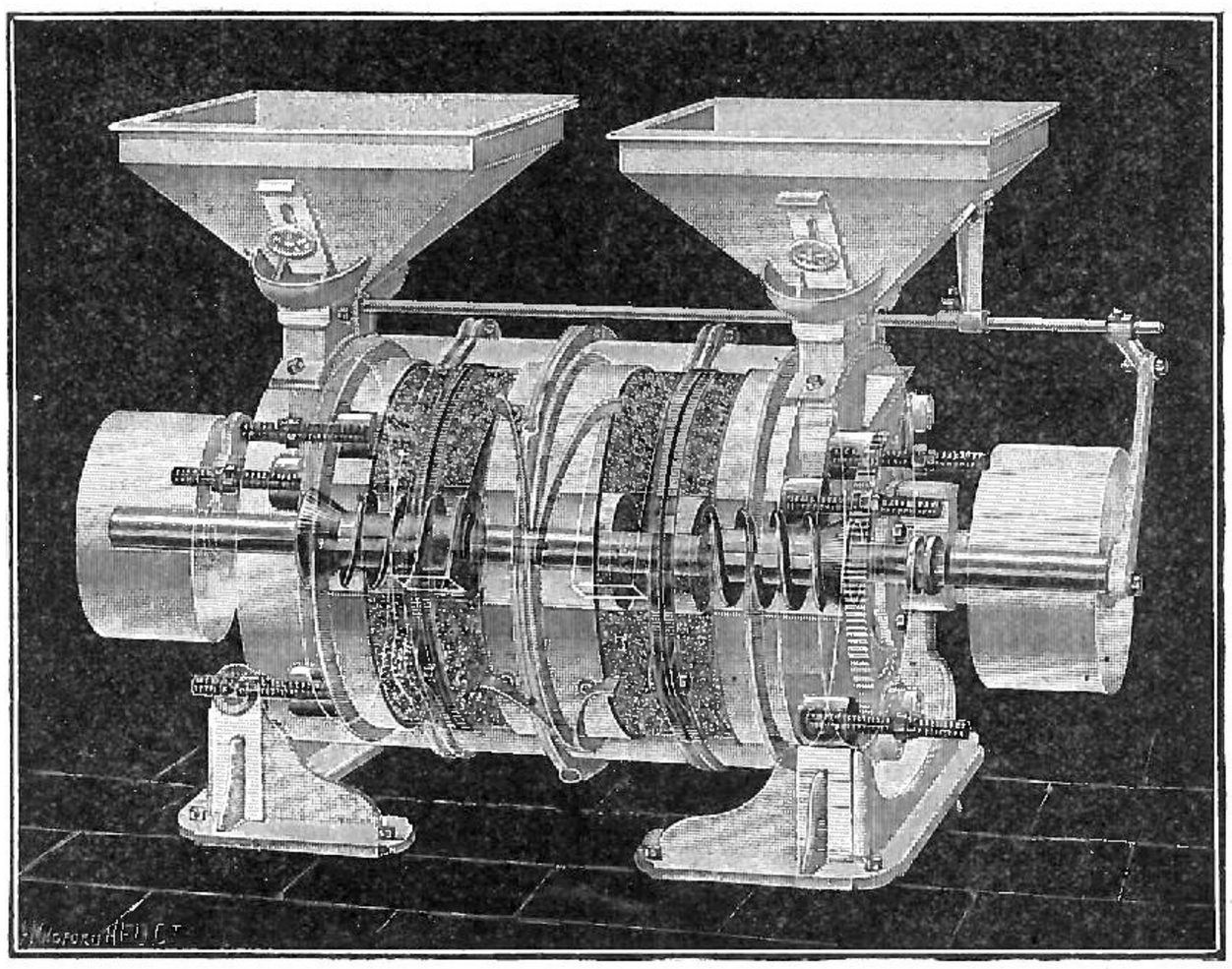


FIG. 2. INTERNAL VIEW OF THE DOUBLE MILL.

Case Wheel and Mill Company, Bristol, Conn. All millers will be interested in these mills, and their letters of inquiry will be promptly answered.

ENGLISH WAYS THROUGH CANADIAN EYES.

Says a correspondent in the December number of "The Dominion Mechanical and Milling News:" "Several of our Canadian millers have crossed the Atlantic during the past summer in search of health, pleasure, knowledge, or a combination of all these worthy objects. I like to chat with them about European mills and millers and the methods of doing things over there as compared with our own. 'One of the things that suprised me most over there,' said one of my trans-Atlantic miller friends the other day, 'was the expensive method of handling grain. There are no such things as grain elevators in Great Britian. The grain is all handled in sacks. It arrives on the vessel in sacks and is thus conveyed to the mill. And just here let me say a word about the British mills. I was greatly impressed with the immense size of the first mill I visited. Judging from its size I estimated that its capacity could not be less than 1,000 barrels per day. You can picture my suprise when, upon entering, I learned that the capacity did not exceed one hundred barrels. The great size of the building was due to the fact that the British miller stores all his grain in his

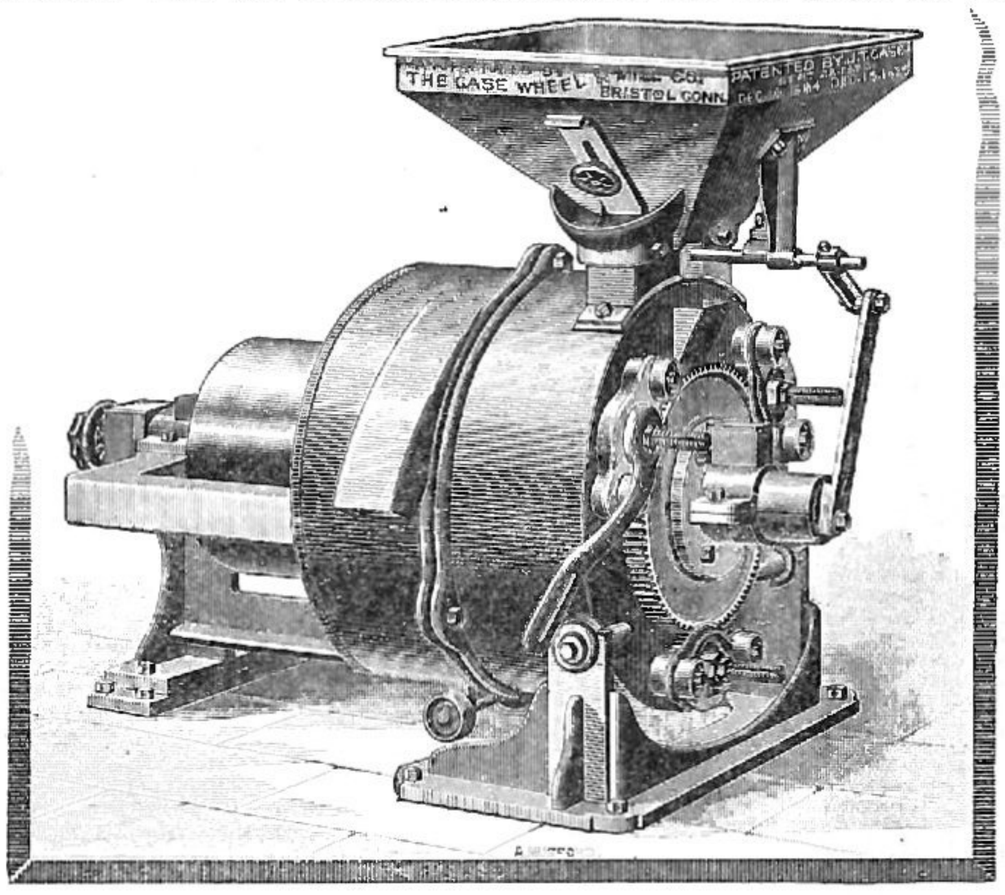


FIG. 3. SINGLE VERTICAL BUHR MILL.

mill instead of in an elevator. The only elevator I saw after leaving America was an arrangement for hoisting the sacks of flour to the upper stories of the mills. The grain is not emptied into bins when it reaches the upper floors. The varieties of wheat received from different countries is emptied only for the purpose of being mixed to suit the purposes of the miller. After mixing, it is put back into the sacks again, and stored until wanted for grinding. You can imagine how expensive this method of handling grain must be, and how much it must add to the cost of production of flour.'

Why in the world don't they adopt our plan? I suggested. 'That is exactly the question that I was accustomed to ask myself, until I went over there and saw the condition of affairs. The great difficulty in the way of changing the system lies in the fact that the railway transportation facilities are not adapted for handling grain in bulk. For instance, there are no box-cars on European railroads. Freight-cars are all open, their contents being exposed to the weather when fine, and covered with tarpaulins when wet. Grain-cars have a kind of rack a railing on the outside.' But if the cost of handling grain in sacks is so great, would it not pay to change the style of cars to correspond with those on American roads? I inquired. 'If you were to see how substantially and expensively these cars are built,' said the miller, 'you would be inclined to hesitate before proposing to change the system, unwieldy and expensive as it certainly is. The disadvantages of the system as compared with our own are at once apparent, but I am afraid that I am not equal to the task of proposing a remedy.' Has not the condition of the milling business in Europe improved of late? 'Yes, I think many of the British mills are making money.' To what do you attribute the improvement? 'It is largely due, I think, to a better understanding of modern milling methods. While a large majority of the mills in America have adopted the roller system, the bulk of the British mills are still using stones. Those mills which have adopted improved machinery have done so quite recently, and as roller process machinery has been undergoing steady improvement during the last seven years, the British roller mills are as a consequence well equipped and are turning out a product of much better quality than formerly.'

I suppose the British bread-eater is a critical customer and turns his nose up at flour that is in any repect inferior. 'Nothing of the kind, I assure you. While there is a demand in certain quarters for first-class flour, by far the greater proportion of the flour sold in England is low-grade. This can be seen by a glance at the kind of bread they eat over there. It is so heavy and hard it might be used for cannon balls. To a Canadian it is an inexplicable mystery

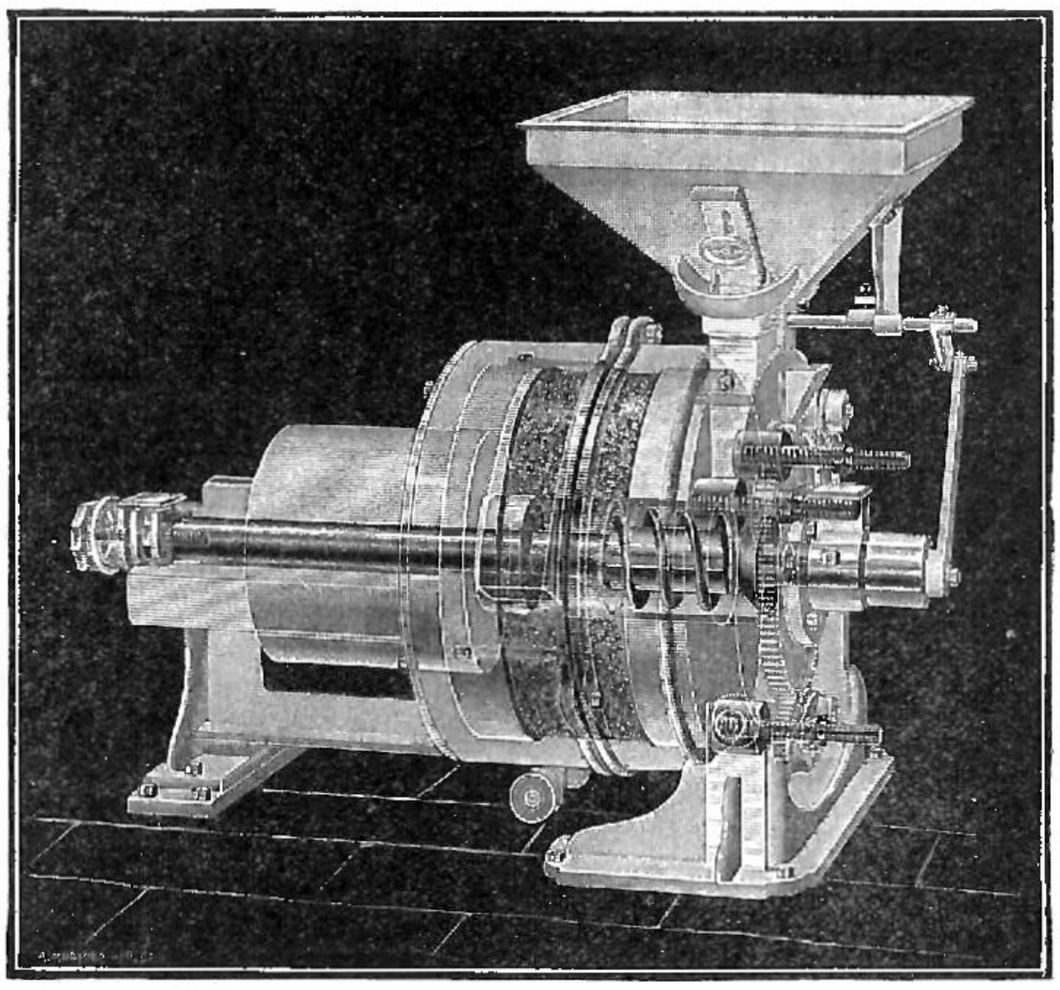


FIG. 4. INTERNAL VIEW OF THE SINGLE MILL.

how the Britishers continue to eat such stuff without utterly destroying their digestive apparatus, but they do, and what is more, on such diet they wax fat and flourishing and as a rule enjoy better health than Americans or even Canadians. Probably the magnificent climate they live in is the secret of their success in defying what in this country is regarded as one of the fundamental rules of health.'"

ANOTHER TERRIBLE POWDER.—At the Royal Powder Factory of Wettern, in Belgium, a new gunpowder is being made. They call it poudrepapier, or paper-powder, and it is said a charge of 2½ grammes (39 grains) gives, in a rifle of small caliber, an initial velocity of 660 yards to the ball. This is equal to, if it does not beat, the Lebel powder. The additional advantages are attributed to it of not smearing the barrel, of producing no smoke and of causing little recoil.

GENERAL NOTES.

THE raisin crop of California is estimated to be 904,000 boxes of 20 pounds each.

THE first hot-house strawberries reached New York December 20 and sold for 50 cents each.

A GERMAN statistician figures up that England has caused the death of 50,000,000 people and has wrought $10,000,000,000 worth of destruction.

COTEMPORARY COMMENT.

It is the test of time which illustrates the value of all milling ideas. It once appeared to the minds of most of us that nothing could be better than the ending-stones, and that the ending of wheat was something to be desired, and a great many experiments were made and much money was spent in accomplishing this work. And after it was all done it was found that it did not do the good that was expected of it. It has been developed that good wheat-cleaning machinery, good scouring and brush machines will do all the ending that is necessary. They will take off the vegetable fiber and rough particles in the ends of the berry and leave the bran intact. It has been found desirable to leave the bran in an unbroken condition previous to reduction.—*Millstone.*

It may be considered as a settled fact in the minds of most millers that an export trade is a necessity of the industry in this country. We have had an opportunity to discover that we have other very considerable competitors in the world's markets. Primarily we make good flour, but the keystone of our success as the world's millers lies in our ability to make good flour cheap.—*Minneapolis Market Record.*

Scribner's Magazine for January opens the third year of its successful existence with the promise for 1889 of an even greater variety in its contents than before. Groups of articles on Art, Literature and Criticism, Railways, Electricity and Fishing will be among the interesting features. More than 25,000 new readers were added to the magazine during the past six months, and the outlook for the new year is equally encouraging. The contents of the January number are the following: Castle Life in the Middle Ages, by E. H. Blashfield and E. W. Blashfield; Railway Management, by General E. P. Alexander; Nunc Dimittis, a Chant of the Fought Field, by Edith M. Thomas; The Master of Ballantrae, III, by Robert Louis Stevenson; The Invalid's World, the Doctor, the Nurse, the Visitor, by A. B. Ward; Rondo, by Henry Shelton Sanford, jr.; French Traits—Women, by W. C. Brownell; Japanese Art Symbols, by William Elliot Griffis; The Luck of the Bogans, by Sarah Orme Jewett; Beethoven's Third Symphony, by Richard Hovey; The Ethics of Controversy, by Geo. P. Fisher; In Bohemia, by Louise Chandler Moulton; Odd Sticks, and Certain reflections Concerning Them, by Thos. Bailey Aldrich.

NOTES AND NEWS

Lynnville, Tenn., men project a flour-mill.
N. J. Minor, Oconee, Fla., starts a grist-mill.
Geo. T. Parrish, Sharon, Tenn., starts a corn-mill.
Watkins & Jorski, Watkins, Ark., build a corn-mill.
J. P. Griffin, John, Tenn., builds a 30-barrel roller mill.
W. D. Gish & Co., Sacramento, Ky., build a 40-barrel mill.
Carmer & Carmer, millers, North Lansing, Mich., burned out.
W. F. & E. A. Rozier's corn-mill, Sparta, Ga., burned; rebuilding.
The Lynchburg, Tenn., Roller Mills put in rolls with 40-barrel capacity.
L. Duddnar & Bros., Gilberts Creek, Ky., build a 40-barrel roller mill.

The Atlantic Mill, Fairmount, W. Va., sold to Wolf & Hamaker, Chambersburg, Pa., for $6,000.

The Louisville, New Oleans & Texas Railroad will build a 200,000-bushel grain-elevator in New Orleans.

A. L. Derby's new grist-mill, Gowanda, N. Y., burned; loss $8,000; insurance $4,000; fire caused by heated machinery.

The sale of the property of the North Carolina Millstone Co., Parkewood, N. C., to M. Schall, of York, Pa., has been confirmed, and Mr. Schall will reorganize the company and put the works in operation.

Says the Toronto, Ont., *Monetary Times*: Settlers in Manitoba, who live near the frontier, where there are no grist-mills on the Canadian side, ask liberty to take their grists to the American side to get ground. Their request has been laid before the Minister of Customs. It is a reasonable one, and it seems that a precedent for granting it can be found in the Eastern Townships.

The grain and flour trade in the Produce Exchange in New York, N. Y., during 1888 is shown in the following exhibit, comparison being made with 1887 and 1886:

	1888.	1887.	1886.
Flour, bbls.....	3,230,407	3,422,228	3,348,579
Wheat, bush.....	1,557,141,500	1,734,573,900	1,537,007,055
Corn, bush.....	331,441,300	276,437,800	250,765,000
Oats, bush.....	85,565,000	92 412,000	73,357,100
Barley, bush.....	1,543,975	2,214,750	1,218,300

The government crop bulletin issued January 1 is as follows: Less than the usual amount of rain fell over the greater portion of the central valleys and the Southern states during the month. Slight excesses were reported in Iowa, Wisconsin, New England and portions of Virginia, Georgia and Texas. Large excesses were reported in southern California and slight excesses in northern California, while on the north Pacific coast only about two-thirds of the usual amount of rainfall was reported. In Tennessee and the Ohio Valley only one-fourth to one-half of the usual amount of rain fell. During the month of December the weather has been unfavorable in the winter wheat region, owing to the small amount of snow. At the close of the year the entire winter wheat section was in need of moisture and bare, except in northern Iowa, where the ground was covered with six inches of snow. From six to twelve inches of snow was reported on the ground at the end of the month in Wisconsin and northern Michigan and from one to two inches in Minnesota and Dakota.

Says the Minneapolis *Market Record*: The question of grade mixing is now getting to be an important one in this market. Under the state grain regulations public houses are not permitted to mix the grades. There are, however, seven private elevators that do a mixing business. They are large buyers of the low qualities of wheat and take enough of the higher to bring the mass up to a certain minimum standard that allows it to pass into the grade it is prepared for. The business has drawn the mixers and the state grain inspectors into controversy. All wheat arriving here from the country that goes into a certain grade is not of equal quality. Whatever is in quality between the minimum, for instance, of No. 1 Northern and minimum of No. 2 Northern goes in public elevators as No. 2 Northern, making an average of the whole, a medium between what is popularly termed "high grade" and "skin grade." Now as the mixing houses are used for the money there is in mixing, it follows that they will naturally raise their product up only to "skin grade," as it would cost less than to put into it a larger amount of high-priced wheat to bring it up to the medium that should come from a public house. The state grain inspectors refuse to inspect from a private house "skin grade" grain as of the grade to which it belongs under the minimum rule, but give to it the next grade below. That necessarily makes a double system of grading. That is, a skin grade from a country shipper will pass, but a skin grade from a city private elevator will not pass. On the other hand, if the rule adopted by the inspectors, or something like it was not followed, wheat from private houses, with the same state inspection, would be of lower quality than the same grades from public houses. For a great many years Milwaukee grade wheat stood high in the markets, but the grain trade of that city has finally gone into the channel of a great mixing house, until now Milwaukee grade is low in the scale, and instead of selling, as it did, above Chicago wheat, it sells several cents below. There is no question that the mixing houses serve a very useful purpose and should be encouraged. They are run by experts and make a good market for grain that has been badly handled. It can not be successfully disputed that the mixing houses have added much value to the price of poor wheat from the country on this crop. But just where the line between encouragement and discouragement should be drawn for the public good is the fine point to be adjusted. Public elevators can not successfully compete with private elevators if there is no way to save their grades from the demoralization that would follow the acceptance by the state inspection of "skin grades" of private elevators. And on the other side, for the state to run a double system of inspection, as it is doing, is apparently a discrimination between city mixers and country mixers; for all country houses are to some extent mixing houses.

BOOKS AND PAMPHLETS.

Don't miss the January number of *The Century*. It is a rich and varied number, copiously and beautifully illustrated. The frontispiece is Giotto's head of Christ, engraved by Cole. An article on the young American sculptor, Olin Warner, with specimens of his work, is another art feature of the number. Charles De Kay presents his first article in a series on Ireland. The first is entitled "Pagan Ireland." Mr. Wilson, the photographer, continues his series on the Holy Land in connection with the International Sunday-School Lessons. The Lincoln Life in this number deals with three commanding events, Pope's Virginia Campaign, the battle of Antietam and the announcement of Emancipation. An illustrated article on "The West Point of the Confederacy" gives an account of a battle, the details of which are little known in the North. The stories of the number are the continuation of Mrs. Catherwood's "Romance of Dollard," and of Mr. Cable's "Strange True Stories of Louisiana;" also "A Perverted Franchise," by A. C. Gordon, illustrated by Kemble, and "An Old Man from the Old Country," also illustrated by Kemble. The latter story is by Mr. George H. Jessop, author of "The Rise and Fall of the Irish Aigle" in the December *Century*. An essay by Colonel Auchmuty tells about a new movement in connection with the subject of American labor. This essay is entitled "An American Apprentice System," and describes a new system of apprenticeship, which Colonel Auchmuty considers "suitable to American wants" and which he says "concerns in no small degree the welfare of the nation." Mr. Frederic Remington, the artist, himself writes as well as illustrates an article entitled "Horses of the Plains." Mr. Kennan, in an article entitled "The Life of Administrative Exiles," presents some of the most astounding facts gathered by him in Siberia. Poems are contributed to this number by William Wilfred Campbell, Edith M. Thomas, Zoe Dana Underhill, Agnes Maule Machar, James Whitcomb Riley, and in "Bric-a-Brac," by Frank Dempster Sherman and Maud Annulet Andrews. In "Topics of the time" are discussed "Annexation, or Federation?" "Separate Municipal Elections," the question, "Are We Just to our Architects?" and "A Crisis in the Copyright Agitation." "Open Letters" deal with "Lawyers' Morals," the "Life of Lincoln," and "The Mother's Right."

PERSONAL MENTION.

Mr. Simeon Howes, the proprietor of the Eureka Works, Silver Creek, N. Y., remembered his employes pleasantly on Christmas, giving each of them a substantial present. In turn he received from them a handsome adjustable reclining chair. The best of feeling always exists between Mr. Howes and his men.

EUROPEAN ECHOES.

LATE December quotations in Mark Lane, London, placed No. 1 spring Duluth wheat at 45s to 46s per 496 pounds, the highest wheat grain quotation on the list. Prime white Danzig was next, at 40s to 44s, which was the price also of Adelaide wheat. The highest flour was American patent spring, 40s 6d. per 280 pounds. Australian "superfine" flour was quoted at 27s to 28s. The highest English flour was quoted at 40s. for "top price brands." The American wheat grain and flour hold the highest notches on the price list. The grades of the Russian wheat poured into London may be seen in the following prices per 496 pounds: Kubanka 36s to 40s; Taganrog 34s to 37s; Odessa, Ghirka 33s to 37s; Sebastopol 36s to 38s; Saxonska 36s to 40s.

SAYS the London "Miller" of December 17: Bad weather and better markets have characterized the last week. Cold below the mean of December days and fog as bad as November's densest have reminded wheat-buyers that winter is upon us. In south-eastern Europe ships are leaving many ports unfreighted, under the chance of snatching cargoes from ports not yet closed or threatened with ice. From this reason Russian shipments have been only about half the quantity for which ships were ready, and America with open Atlantic ports has no wheat cargoes to offer at low enough figures for English buyers. As to farmers' deliveries, the average price, yet under 32s. for English wheat per 480 pounds, only attracts very moderate offers; nor sellers nor buyers are satisfied. Really the price is not tempting for English wheat in Mark Lane. What does our Essex, Kent or other near-county farmer get for a quarter of his average wheat? It has been grown, threshed out, carted to the nearest railway station and borne the transit rates o the Great Northern, Great Eastern or Bricklayers' Arms Station: and for this quarter of wheat 33s. 2d. last week was the reward per quarter, on 2,923 quarters! Certainly barley at 31s. 7d. ought to pay the grower better; but for oats the market is still worse, the average price being but 17s. 2d. Per acre the money results may be roughly reckoned for the grain: wheat £6 10s.; barley £7 10s.; oats £6; to which amounts the value of the straw has to be added. Wheat-dealers, buying of farmers, are complaining this season that samples are hard to buy from growers and hard to sell to millers on terms that allow any profit to the middleman. Nor is it easy for importers to get hold of Californian, Russian or Indian wheat cargoes which they can sell at ordinary merchant remuneration. Neither home nor foreign wheat sellers this season seem willing to part with stock except after close bargaining. However, there is enough wheat in motion, moving and coming towards our markets, which can not well be checked, and a fair weekly supply remains assured to the last month of 1888. For flour, demand both wholesale and retail has improved during the past week, but full prices have not been often exceeded. The dead-weight oppression of excessive American flour supplies has been lifted, yet old stocks and English millers' fresh and full deliveries furnish bakers easily with all the flour they want. Trade seems in these circumstances to be in a healthy condition.

J. MURRAY ON JONATHAN.

Recent articles in the milling journals call out the following communication from Mr. J. Murray Case, of Columbus, O., to "The Millstone": "My attention has been called to the discussion going on in the milling journals, in relation to shaking riddles and round reels for scalping and bolting. Our friend Jonathan Mills seems to have pitched into the matter with a considerable degree of vigor, but if his article is carefully studied it will be seen that his conclusions are based upon theorizing rather than practical experience, and it is very plain to see the fallacy of his reasoning. There is nothing I read in the milling journals with such a degree of repugnance as articles based entirely on theory and ignoring practical experience, and the operation of machines that are constantly proving the inaccuracy of such theories. * * * * The theorizing of brother Jonathan as to what capacity a sieve will have as compared with revolving reels, in which he carefully and mathematically estimates the square inches of sieve surface, the travel of the material and all that sort of thing, is ideal from the fact that the conditions in the two machines are entirely different. A shaking sieve has the material on the riddle in such a position as best to utilize the specific gravity, and the travel has nothing whatever to do with the quantity of bolting. Only three days ago the writer was in a small mill at Springfield, O., where the miller was making what he called Graham meal. This consisted in grinding the wheat down so that the bran was fairly clean and scalping it over No. 16 wire. The miller was grinding ten bushels an hour, and the scalping operation consisted of nothing but a shaking sieve, 8 inches wide and 24 inches long, with a little stop-board at the end to prevent the material from shaking over until the separation had been made. This small sieve had a throw of three inches and was running about 100 revolutions per minute, the sieve being connected direct to the spindle of the millstone. Now this little sieve only 8 inches wide and 24 inches long was scalping through No. 16 wire perfectly all the stock made from that millstone; grinding at the rate of ten bushels per hour, and this one little fact knocks forever in the head all the ideal theorizing presented by ideal writers, and it furthermore demonstrates that a shaking riddle having a long throw can be made to scalp the stock for a very large mill on a remarkably small surface. It is my belief that a series of these little shaking riddles will scalp the break-chop for a 100-barrel mill, since the material that was being scalped on the one I saw was much softer than that made on rolls, and it was doing the work most perfectly. Such instances as that may be found in mills in many places. It is true, however, that a shaking sieve as ordinarily made with a short throw is not adapted either to rapid scalping or perfect work, but give it a sufficient amount of throw so that the stock will be tumbled over and it will do more work and better work than any system of reels can possibly do, and this brother Jonathan and the milling fraternity will find out in the near future. Very much the same ideal reasoning we find among millers in relation to the short system. They will go direct to a short system mill; look at it with their own eyes; see that the bran is broader and perfectly clean; that the chop is better than that made in a six-break mill; and then will turn right around and write a theoretical article directly contrary to the absolute facts which come under their observation. What we want in newspaper articles is more facts and less drifting into that class of sophistry which is intended to lead millers astray and by which means they are very greatly injured."

THE good that was not accomplished at the Milwaukee convention continues to be evident on all sides. The memory of the closing banquet still lingers, however, like a dried damask rose's fragance in a chest of relics and heir-looms.

The Grain and Flour Trade

OFFICE OF THE MILLING WORLD,
BUFFALO, N. Y., January 5, 1889.

On Friday of last week, in consequence of better home and foreign buying and lighter receipts, the markets were stronger. December wheat opened at $1.00¼ and closed at $1.01. Options 2,250,000 bushels. December corn ruled at 46¼c. and January oats at 31c. Wheat flour was steadier and more active on good home and export trade. Other lines were featureless.

On Saturday the markets showed more firmness in wheat. December wheat opened at $1.00⅞ and closed at $1.01⅜. Options 500,000 bushels. December corn ruled dull at 46⅛c. and oats at 31c. Wheat flour was dull, but there were some export orders received, of larger amounts and at higher prices for No. 1 springs. West Indian demand also improved. The minor lines were featureless.

On Monday, the last day of 1888, the markets showed renewed speculative vigor and a marked advance in prices. The Old Year wound up with the bulls in the grand act of boosting the markets. Foreign advices aided to increase the strength of the markets. May wheat sold at $1.07½ and closed at $1.07¾. Options 5,328,000 bushels. January wheat closed at $1.02⅛, February at $1.03¾, and March at $1.05⅛.

The visible supply in the United States and Canada was:

	1888. Dec. 29.	1887. Dec. 31.	1886. Jan. 1.
Wheat	38,301,447	38,035,659	62,729,869
Corn	8,497,150	7,269,742	13,783,114
Oats	8,624,162	8,433,837	5,026,610
Rye	1,678,838	1,637,502	435,429
Barley	2,803,901	2,456,851	2,785,798

Corn was in better trading during the day, exporters taking large quantities. January corn closed at 46c. for No. 2. Oats ruled at 31c. for No. 2 for January. Wheat flour was stronger and trade showed improvement for home business, while exporters held off. Other lines were featureless.

Tuesday was given up to uproarious holiday festivities, allowing the speculators to rest themselves by over-exertion in horse-play.

On Wednesday, the first business day of 1889 the bears took the first innings. Following Old Hutch, of Chicago, they met the advance on opening with heavy selling. January wheat opened in New York at $1.02⅜, and closed at $1.00⅝, a regular "slump" instead of the "boom" that was anticipated for the opening of the month and the year. Options 7,000,000 bushels. January corn opened at 46c. and closed at 46¼c., and January oats sold up from 31c. to 31⅜c. Wheat flour was dull, with buyers holding off on the break in wheat, and with receivers holding on in the belief that the jobbers must soon come in and buy, and that the longer they hold off the more they must buy when they do come in. Reports came announcing the shutting down of several large St. Louis mills. The official statement of flour on hand showed 329,000 barrels, of which 131,940 barrels were winter and 197,060 were spring. On Dec. 1 the total was 288,050 barrels, and a year ago it was 186,860 barrels. The minor lines were featureless.

On Thursday the markets were irregular. In Chicago Hutchinson led a bear raid on wheat, under the influence of which January wheat opened at 99c., but rallied and closed at $1.00⅝ in New York. Options 3,500,000 bushels. There was some export trading, but the feeling among the speculators seemed to be decidedly panicky. January corn opened at 46c. and closed at 45⅞c. January oats opened at 31¼c. and closed at 31⅜c. Buckwheat grain was 60@62c. Rye grain was nominally 59c. in elevator and 57@58c. on track for No. 2 Western, and 58@59c for State and Jersey. Barley was steady at the following quotations: Two-rowed, 79c.; six-rowed, 80@83c.; No. 2 extra Canada, 85@86c., and No. 1, 88@90c. Malt was steady at the following quotations: $1.10@1.15 for city-made Canada; 90c. for two-rowed State; 98c. for six-rowed State. Mill-feed was quoted as follows: Bran, spring and winter city and Western, 70@75c.; fancy, 80c.; 60 lbs. 75c.; 80 lbs. 75c.; 100 lbs. 80@90c.; sharps 95c@$1.00. rye, 85c.; 50@80c. for screenings; cotton meal, $1.25@1.27½; oil meal, $1.50; barley meal, 90@95c.

Wheat flour was in moderate demand, with some export inquiry and increased jobbing inquiry after the strengthening in wheat. Buyers had to pay full prices for almost every line, and sellers had to make concessions on lower grades. Trade was only moderate. Following are the quotations:

SPRING FLOUR.	Sacks.	Barrels.
No grade	$2.00@2.25	$....@....
Fine	2.25@2.50	2.60@2.90
Superfine	3.00@3.25	3.30@3.45
Extra No. 2	3.40@3.55	3.55@3.75
	New. Old.	New. Old.
Extra No. 1	3.80@4.50	3.90@4.50
	New. Old.	New. Old.
Clear	4.00@4.75	4.50@5.00
Straight	5.25@5.75	5.75@6.00
Patent	5.85@6.50	6.35@6.90
WINTER FLOUR.	**Sacks.**	**Barrels.**
No grade	$2.00@2.25	$....@....
Fine	2.60@2.85	2.80@3.00
Superfine	3.25@3.40	3.35@3.50
Extra No. 2	3.40@3.55	3.70@3.90
Extra No. 1	3.80@4.75	4.00@4.50
Clear	4.30@4.60	4.50@4.90
Straight	5.00@5.25	5.00@5.60
Patent	5.25@5.60	5.40@6.25
CITY MILLS.		
W. I grades		$5.10@5.25
Low grades		2.60@2.90
Patents		6.00@6.75

Rye flour was dull at $3.25@3.35 for good and $3.40@3.50 for choice brands. Buckwheat flour was dull at $2.10@2.25 on account of warm weather. Corn products were quoted as follows: Coarse, 87@90c; fine yellow, $1.00@1.05; fine white, $1.05@1.08; Brandywine, $3.00; Sagamore, $3.00; Southern and Western, $2.80@2.95; corn flour, $3.25@3.50; hominy, $3.00@3.20; grits, $3.25@3.50.

BUFFALO MARKETS.

FLOUR—City ground—Patent spring, $7.25@7.50; straight Duluth spring, $6.75@7 00; bakers' spring, $5 45@5.50; amber $6.00@6 25; white winter, $6.00@6.25. Western—Patent spring, $7.25@$7.50; Straight Minnesota Bakers', 6.75@7.00; clear do, $5.25@5.50; white winter $6.00@6.25; low grade flour, $4.00@4.50; Grahamflour, $6.00@6.25; rye flour, $4.00@4.25 per bbl. buckwheat flour, $3.00 per 100 lbs. OATMEAL—Akron, $6.00; Western, $6.30 per bbl. CORNMEAL—Coarse, 90c.; fine, 95c.; granulated. $1.75 per cwt. WHEAT—Old No. 1 hard sold in a small way at $1,36; 2,000 bu new hard broad $1.27½; at $1.28¼; the cloze was firm; winter wheat quiet and firm; sale 2,000 bu No. 2; red at $1.04¼; 1,000 bu No. 1 white at $1.06, 8 do No 3 do red at 91¾c, and 1 do No. 3 extra at $1 in store. CORN—Quiet and weak, closing firm at opening prices. No. 2 38c; No. 3 36¾c; No. 4 36@36½c; ungrated 35½c. No. 3 yellow, 37¾@38c No. 4 yellow 36¾@37c. on track. OATS—No. 2 white in fair request at 32c; No. 3 white, 31c; No. 2 mixed, 29c; White State from wagon, 34@35c. BARLEY—No. 1 Canadian quotable at 80@83c; No. 2, 75@76c; No. 2 extra 72@74c; No. 3, 65@75c. RYE—No 2 Wesfern held at 58c on track. ELEVATING RATES—Until further notice the charge for elevating, receiving, weighing and discharging sound grain will be ⅝ of a cent per bu as follows: For storing each ten days or parts thereof ¼ of 1 cent, per bu. No grain will be received for transfer. The above charge is to be paid by the consignee of the grain. WINTER STORAGE—After November 10, 1888, for each ten days, or part thereof, ¼c per bu until such charge (accumulated after the first ten days), shall amount to 2c per bu; then free until 5 days after the opening of canal navigation in 1889. On all grain in store before November 10, ¼c per for each ten days, or part thereof, until such charge (accumulated after November 10), shall amount to 2c per bu; then free until 5 days after the opening of canal navigation.

Says Chicago *Daily Business*: Pillsbury is said to have gone short in this market around $1.19@1.15 against this whole line of 5,000,000 bushels of cash wheat, and that he has not yet fully covered, though he may have reduced his hedge. "Charlie" Handy, of Minneapolis, says there are not 5,000,000 bushels of good milling wheat back of Minneapolis, and that there is not enough spring wheat to be had to keep the mill running half time between now and next harvest.

During the year 1888 Chicago received 13,165,512 bushels of wheat, against 21,411.245 bushels in 1887. Wheat shipments were 12,150,173 bushels, against 26,850,743. Corn receipts in 1888 were 70,018,076 bushels, against 51,538,217 in 1887, and the shipments were 69,402,564, againgt 50,442,992. Oats receipts in 1888 were 52,065,223 bushels, against 45,309,277, and shipments were 41,016,800 against 37,148,221. Rye receipts were 2,661,787 bushels in 1888, against 849,000 in 1887, and shipments were 1,750,576 against680,830. Barley receipts in 1888 were 12,094,714 bushels, against 12,170,400 in 1887, and shipments 7,805,662, against 7,216,486.

JOHN HUTCHISON MFG. CO.,

Mill Builders and Mill Furnishers.

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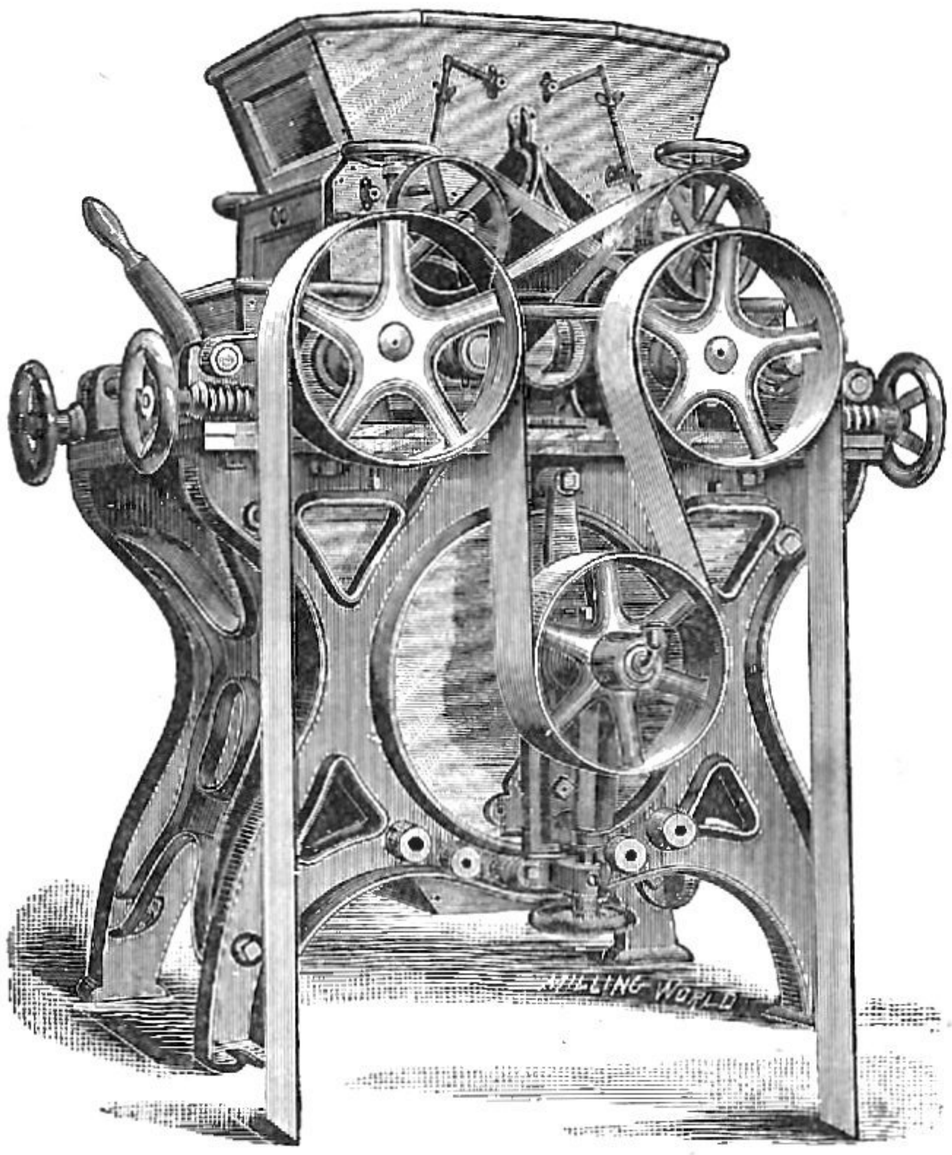

"The Rickerson." The original six inch 4 Roller Mill. We now own the patents on this mill and after greatly improving the mill manufacture them in four sizes:

6x12 inch. 6x18 inch.
6x15 " 6x20 "

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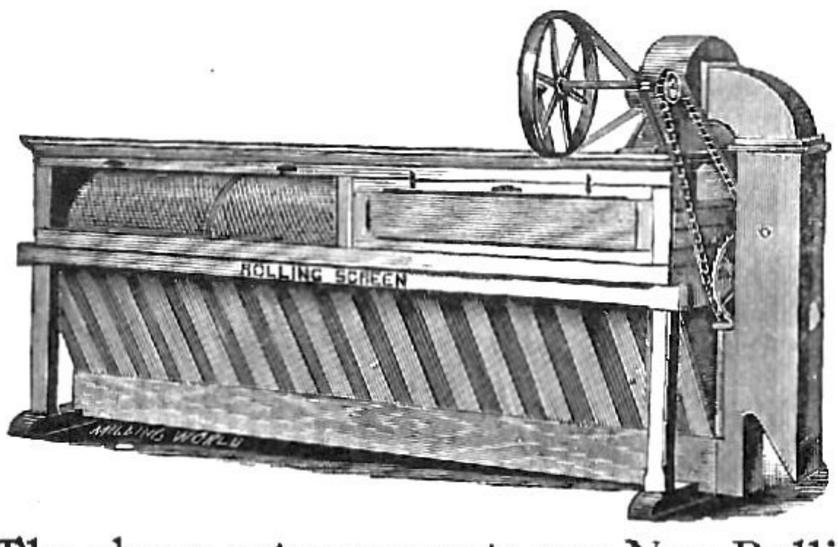
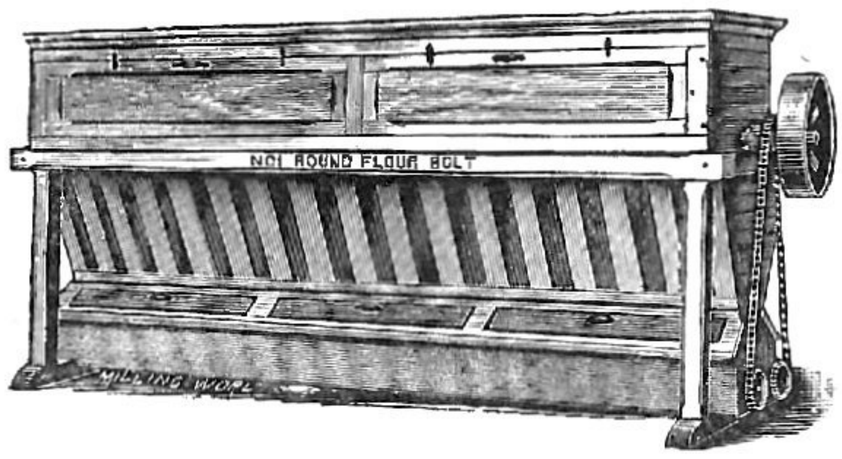


The above cut represents our New Rolling Screen, which is absolutely dustless and has as much scouring qualities as any two scouring machines now being made.



The above cut shows our New Round Slow Running Flour Bolt. We also build a Cylinder or Round Scalping Reel and we have lately built a number of new mills of medium capacity, using our Roller Mills, our Round Flour Bolts and Scalping Reels, getting better results than is usually obtained.

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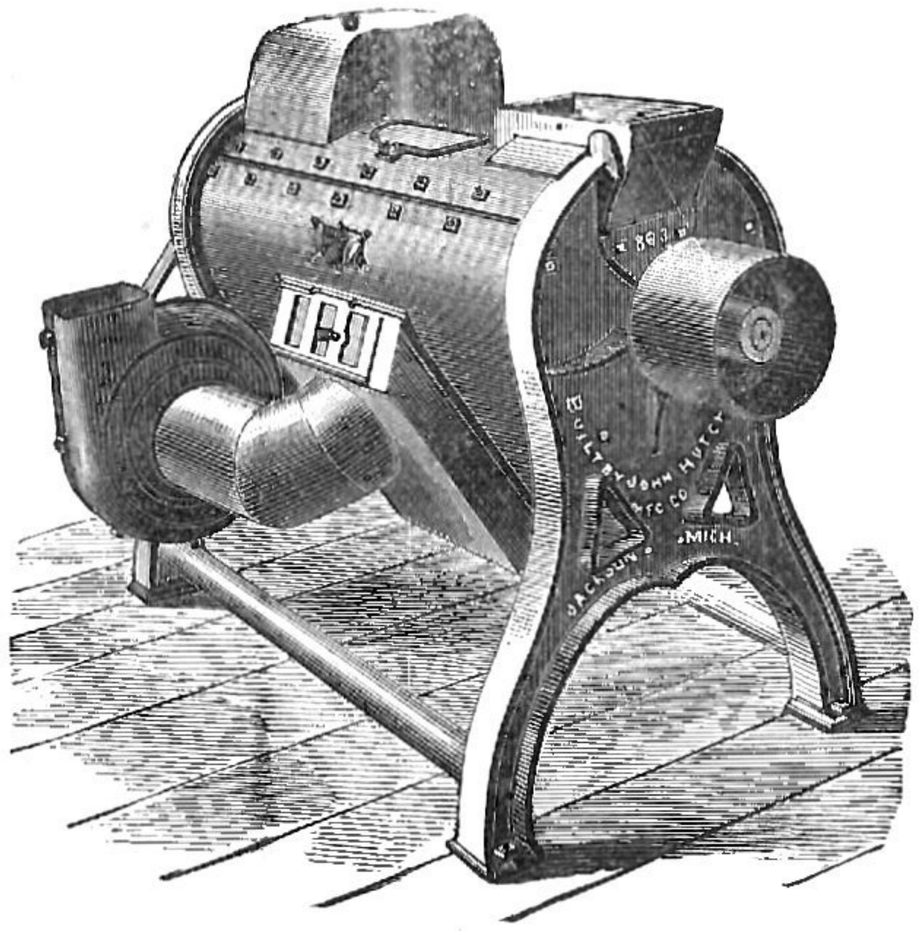

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